

1 DAUFUSKIE ISLAND UTILITY COMPANY, INC

2 DOCKET NO. 2018-364-W/S

3 Surrebuttal Testimony of John F. Guastella

4 Before the South Carolina

5 Public Service Commission

6 Testimony Prepared: February 20, 2019

7 Hearing Date: February 28, 2019

8

9 **Q. Please state your name and business address.**

10 A. John F. Guastella, 725 N. Highway A1A, Suite B103, Jupiter, Florida 33477.

11 **Q. Have you previously submitted direct testimony in this proceeding?**

12 A. Yes.

13 **Q. Have you reviewed the Complainants' rebuttal testimony?**

14 A. Yes.

15 **Q. Do you have any comments regarding those testimonies?**

16 A. The testimonies of Michael and Nancy Halwig and Beverly Noller are identical so
17 my comments are applicable to each Complainant. First, the evidence DIUC has
18 already submitted in this proceeding rebuts various unsubstantiated comments by
19 the Complainants regarding DIUC's efforts to address the erosion at Driftwood
20 Cottage Lane, installation of new mains (not a replacement of the original mains),
21 the uncertainty as to the risk of the permanency of service and the Customer Service
22 agreement. Accordingly, there is no need for me to provide more rebuttal of those
23 issues.

1 **Q. What is the primary purpose of your surrebuttal testimony?**

2 A. The purpose of my testimony is to respond to the Complainants' rebuttal testimony.
3 The Complainants' position is that they should be reimbursed for the constructions
4 costs they already paid and that they should not pay for the costs related to the new
5 main, but instead that DIUC should absorb those costs. This position ignores the
6 multiple rate setting requirements at issue, which I will generally outline.

7 1. In compliance with rate setting caselaw and practice, DIUC's rates
8 must be sufficient to cover the cost of providing utility service. The cost of
9 providing utility service includes reasonable operating expenses and capital costs.
10 Rate setting principles do not permit DIUC to be forced to "absorb" the cost of
11 providing service.

12 2. As I explained in my previous prefled testimony, when determining
13 whether to engage in expending a particular capital cost a utility must consider
14 many factors, including the permanency of the customers to be served by the new
15 equipment and whether an investment in infrastructure is prudent.

16 3. In addition, DIUC's rates must be set so that they recover the cost
17 of providing service equitably among all of DIUC's customers. So, when forces of
18 nature required the installation of a new connection for the Complainants by
19 accessing DIUC's closest existing water distribution and sewer collection system,
20 it would be unequitable to force DIUC's other customers to subsidize the associated
21 capital costs, which would be far greater than the average costs of providing service
22 to DIUC's other customers. If forced to pay for the installation for the
23 Complainants, those other customers would be paying more but receiving no

1 benefit from that new connection. So, even if the Commission were to grant the
2 Complainants' request and have DIUC incur the costs but then later include them
3 in future rates, it would not address the problem of inequitable rates because the
4 other customers would be subsidizing costs only attributable to the Complainants.

5 **Q. Before they entered into the Customer Service Agreement, did the**
6 **Complainants have opportunities to present their objections to the ORS?**

7 A. Yes, the ORS was made aware of this matter more than two years ago. The
8 Complainants knew that DIUC could not replace the destroyed mains because the
9 Melrose Property Owners would not restore the road. DIUC informed them that it
10 was their responsibility to install a new main to connect to DIUC's exiting mains,
11 and that DIUC would not pay for the mains in order to protect its other customers
12 from subsidizing the cost through utility rates. DIUC has never received any
13 indication from ORS that its position regarding this matter was in any way
14 improper, and as far as I know, the Complainants were never told that DIUC's
15 position was inconsistent with its application of rate setting principles. After
16 entering into the Customer Service Agreement, the Complainants initiated this
17 proceeding which asks the Commission to relieve them of the obligations they
18 undertook in construction and their commitment to cover the costs associated with
19 bringing the new equipment into the DIUC system.

20 **Q. Has DIUC incurred any costs or expenses as a result to the Complainants'**
21 **initiation of this proceeding?**

22 A. Yes. DIUC has had to incur significant legal and consulting costs within this
23 proceeding in order to again address a basic rate setting question of whether DIUC

1 correctly protected its other customers from subsidizing costs solely attributable to
2 the Complainants. As of January 31, 2019, the legal fees amount to \$16,471 and
3 consulting fees, excluding any time prior to the initiation of this proceeding, amount
4 to \$22,750, for a total of \$39,221. The fees for the month of February will include
5 costs to prepare testimony submitted earlier in the month, review of the
6 Complainants' rebuttal testimony, prepare surrebuttal testimony, counsel's and
7 DIUC witnesses' attendance at the hearing, travel costs, counsel's and DIUC
8 witnesses' preparation for the hearing, and then drafting a proposed order, will add
9 another estimated \$40,000, or more. At hearing DIUC will submit invoices of the
10 costs of this proceeding and will seek recovery of them from the Complainants in
11 order to again protect the other customers from subsidizing costs solely attributable
12 to the Complainants.

13 **Q. Do you have an update regarding the permanency issue you addressed in your**
14 **earlier prefiled testimony?**

15 A. Yes. I am providing as **Exhibit JFG-5** to this surrebuttal testimony photographs I
16 directed DIUC personnel to take on February 20, 2019. The photographs fairly and
17 accurately depict certain areas along Driftwood Cottage Lane ("DCL"), including
18 29, 33, 36, 42, and 46 Driftwood Cottage Lane. Each photograph is labelled in the
19 bottom right corner to provide additional information about the photographs. I
20 recognize the area depicted in the photographs. The images in the photographs are
21 consistent with my personal knowledge of the area. I am familiar with the area
22 depicted in the photographs, as they are located on Daufuskie Island, South

1 Carolina where DIUC operates. Additionally, DIUC has been closely monitoring
2 this area for several years, as discussed in the various witnesses' testimony.

3 **Q. What is depicted in the photographs in Exhibit JFG-5?**

4 A. The photographs show houses that are essentially in the ocean water at high tide. I
5 would particularly note that a section of the service lateral pipe at the Halwig
6 property is exposed and unsupported, as seen in the photograph labelled "46
7 Driftwood Cottage Lane north side."

8 **Q. Have you also reviewed the six (6) photographs included within the Answer of**
9 **DIUC filed in this case electronically on December 17, 2018?**

10 A. Yes. I have reviewed those photographs and the textual descriptions of the
11 photographs included in the Answer. The photographs fairly and accurately depict
12 certain areas along Driftwood Cottage Lane ("DCL"), including 29, 33, 36, 42, and
13 46 Driftwood Cottage Lane. The Answer accurately captions each of these
14 photographs. One of the photographs is an overhead photograph and map overlay
15 of the same area showing address numbers for the properties and generally showing
16 the lot lines for the depicted parcels. The image is captioned "Driftwood Lane
17 Destroyed." I recognize the area depicted in all six photographs. The images in
18 the photographs are consistent with my personal knowledge of the area. I am
19 familiar with the area depicted in the photographs, as they are located on Daufuskie
20 Island, South Carolina where DIUC operates. Additionally, DIUC has been closely
21 monitoring this area for several years, as discussed in the various witnesses'
22 testimony.

1 **Q. The Complainants' prefiled rebuttal testimony includes the following**
2 **statement:**

3 "There are lots on Driftwood Cottage Lane that could have
4 future houses on them. The state law allows houses to be built
5 between the baseline and setback lines in this area. Section 48-
6 39-290 of The Beachfront Management Act provides for new
7 homes to be built in this area. So the Driftwood Cottage Lane
8 mains can serve future customers. My reference to "all lots"
9 corrects DIUC's interpretation that we Complainants will be the
10 only customers using the mains in the future."

11 **Q. Does DIUC have any information regarding the potential for houses to be**
12 **constructed on Driftwood Cottage Lane?**

13 A. Yes. I am providing as **Exhibit JFG-6** to this surrebuttal testimony pertain
14 documents that address the baseline and setback lines in the area at issue. I have
15 included in **Exhibit JFG-6** a report by the South Carolina Department of Health
16 and Environmental Control ("DHEC") entitled "Line Report: Proposed Baseline
17 and Setback Line, Daufuskie Island, October 6, 2017, Revised May 3, 2018" along
18 with a screenshot photograph that was copied from the South Carolina Beachfront
19 Jurisdiction viewer (<https://gis.dhec.sc.gov/shoreline>), as included in the Memo.
20 The photograph depicts the current and proposed base lines and setback lines. I
21 recognize the area depicted in the screenshot photograph. The image in the
22 photograph is consistent with my personal knowledge of the area. I am familiar
23 with the area depicted in the photograph, as it is located on Daufuskie Island, South

1 Carolina where DIUC operates. Additionally, DIUC has been closely monitoring
2 this area for several years, as discussed in the various witnesses' testimony.

3 **Q. Can you summarize for the Commission what the Memo and photograph**
4 **comprising Exhibit JFG-6 show?**

5 A. Yes. The following is taken from DHEC's Line Report:

6 "The baseline is the more seaward of the two jurisdictional lines.
7 Seaward of the baseline, permitted activities are limited to wooden
8 walkways, small wooden decks, fishing piers, golf courses, normal
9 landscaping, groins, activities authorized by emergency orders,
10 beach renourishment projects, and structures authorized by a special
11 permit. The setback line is the landward line of beachfront
12 jurisdiction. Between the baseline and setback line, the Department
13 exercises regulatory permitting authority for such activities as
14 habitable structures and associated infrastructure, decks, gazebos,
15 other public access structures, and sand dune management. Seaward
16 of the setback line, construction of new shore-parallel erosion
17 control structures (i.e. seawalls, revetments or bulkheads) is
18 prohibited. However, existing erosion control structures may be
19 maintained or repaired with prior authorization by the Department.

20 The Current Base Line in the photograph is the solid red line and the Current
21 Setback Line is the solid blue line. DHEC's Proposed Base Line is the broken
22 green line and the Proposed Setback Line is the broken purple line. The
23 Complainants residences are shown between the Current Base Line and the Current

1 Set Back Line. The Complainants' residences are also shown seaward of the
2 Proposed Base Line. I would also note on page 3 of DHEC's Line Report that last
3 line in the table "Transition north for 308 feet, then north for 3,032 feet to Captain
4 Monroe Lane" which includes the DCL section, shows the second highest
5 "Shoreline Change Rate, (ft/yr)" or erosion rate of -7.405 feet.

6 **Q. What do you conclude from DHEC Line Report and the photograph from**
7 **from the South Carolina Beachfront Jurisdiction viewer**
8 **(<https://gis.dhec.sc.gov/shoreline>), as included in the Memo?**

9 A. The erosion along DCL has been significant and, according to the DHEC
10 calculations, it is getting worse. The photograph also shows that all of the lots along
11 this area of Driftwood Cottage Lane are seaward of the Current Set Back Line and
12 seaward of the Proposed Base Line which means the restrictions on any residence
13 in that area are so significant that it is not likely any future permanent homes could
14 be built there. This information from the Memo and the photograph, further support
15 DIUC's conclusion that it should not place its other customers at financial risk by
16 paying for the construction, CIAC taxes, and related costs solely attributable to the
17 new mains for the Complainants' homes.

18 **Q. Does this conclude your testimony at this time?**

19 A. Yes.



Looking North at 29, 33 and 36 Driftwood Cottage Lane

Exhibit JFG 5 (1 of 6)



Looking South across 42 and 36 Driftwood Cottage Lane
Exhibit JFG 5 (2 of 6)



36 Driftwood Cottage Lane south side
Exhibit JFG 5 (3 of 6)



36 Driftwood Cottage Lane west side
Exhibit JFG 5 (4 of 6)



46 Driftwood Cottage Lane north side

Exhibit JFG 5 (5 of 5)



46 Driftwood Cottage Lane south side
Exhibit JFG (6 of 6)

**Line Report: Proposed Baseline and Setback Line
Daufuskie Island
October 6, 2017
Revised May 3, 2018**

Background

South Carolina Code of Laws §48-39-280, as amended, requires the Department of Health and Environmental Control's Office of Ocean and Coastal Resource Management (OCRM or Department) to establish and periodically review the position of the two lines of beachfront jurisdiction (the baseline and the setback line) once every seven to ten years. For all oceanfront land that is developed or potentially could be developed, the average annual shoreline change rate, also known as the average long-term erosion rate, is also reviewed during this timeframe. The purpose of these jurisdictional lines is to implement §48-39-280(A), which states:

"A forty-year policy of retreat from the shoreline is established. The department must implement this policy and utilize the best available scientific and historical data in the implementation. The department must establish a baseline which parallels the shoreline for each standard erosion zone and each inlet erosion zone. Subject to Section 48-39-290(D), the baseline established pursuant to this section must not move seaward from its position on December 31, 2017."

The baseline is the more seaward of the two jurisdictional lines. Seaward of the baseline, permitted activities are limited to wooden walkways, small wooden decks, fishing piers, golf courses, normal landscaping, groins, activities authorized by emergency orders, beach renourishment projects, and structures authorized by a special permit. The setback line is the landward line of beachfront jurisdiction. Between the baseline and setback line, the Department exercises regulatory permitting authority for such activities as habitable structures and associated infrastructure, decks, gazebos, other public access structures, and sand dune management. Seaward of the setback line, construction of new shore-parallel erosion control structures (i.e. seawalls, revetments or bulkheads) is prohibited. However, existing erosion control structures may be maintained or repaired with prior authorization by the Department.¹

As part of the process of delineating these jurisdictional lines, the Department has collected beach survey data statewide since 1988 at monitoring stations that are typically spaced 2,000 feet apart. Sections of the coast that are not likely to be developed, such as Cape Romain National Wildlife Refuge, are not surveyed. Surveys begin landward of the primary oceanfront sand dune, if one exists, and extend down the beach and offshore. In addition to this beach erosion monitoring data, the Department utilizes recent dune field topographic data such as Light Detection and Ranging (LIDAR), elevation measurements collected with a survey-grade GPS unit, vegetation measurements collected with a mapping-grade GPS unit, current and historical aerial photographs dating back at least 40 years that show the shoreline location, and

¹ S.C. Code Ann. §48-39-290(A).

previous shoreline change analysis data or reports. These data were viewed and analyzed using ESRI's Geographic Information System (GIS) software.

Process for Establishing the Baseline Position

To establish the baseline position, the shoreline must first be classified as an inlet zone or a standard zone. Areas that are close to inlets with non-parallel offshore bathymetric contours and non-parallel historical shoreline positions are classified as inlet zones, while all other areas are classified as standard zones. Inlet zone classifications are further refined as either unstabilized, or stabilized by jetties, terminal groins, or other structures.

In stabilized inlet zones and standard zones, the baseline is located at the crest of the primary oceanfront sand dune using beach survey data or dune field topographic data such as LIDAR. The primary oceanfront sand dune is defined as a dune with a minimum height of 3 feet, as measured vertically from the crest to the toe of the dune. This dune must also form a continuous line for 500 shore parallel feet.² If the shoreline has been altered naturally or artificially by the construction of erosion control devices, groins, or other man-made alterations, the baseline must be established where the crest of the primary oceanfront sand dune would be located if the shoreline had not been altered.³

To calculate a dune crest position at an armored⁴ location, the volume of sand on the beach seaward of the erosion control structure is determined from survey data and then compared to the volume of sand from a nearby unarmored reference profile that displays a representative sand dune. The reference profile is overlaid on the armored profile in such a way that the measured sand volumes match, and then the dune crest position can be transferred from the reference profile to the armored profile. This calculated dune crest position then becomes the baseline.

In unstabilized inlet zones, the baseline is established at the most landward shoreline position at any time during the past 40 years, unless the best available scientific and historical data of the inlet and adjacent beaches indicate that the shoreline is unlikely to return to its former position. This baseline position is established by analyzing shorelines created from historical aerial photographs or shoreline data collected in the field, and identifying the most landward shoreline position.⁵

Process for Establishing the Setback Line Position

The setback line position is dependent on the baseline position and the average annual shoreline change rate, also known as the average long-term erosion rate. The shoreline change rate is calculated using available historical shoreline data and GIS software. The setback line is established landward of the baseline a distance which is 40 times the average annual shoreline change rate or not less than 20 feet.⁶

During this line review, the shoreline change rate calculation was performed using AMBUR (Analyzing Moving Boundaries using R), a tool available through the R-forge statistical

² S.C. Code Regs. 30-1(D)(43).

³ S.C. Code Ann. §48-39-280(A)(1).

⁴ S.C. Code Ann. §48-39-250(5).

⁵ S.C. Code Ann. §48-39-280(A)(2).

⁶ S.C. Code Ann. §48-39-280(B).

environment. Shoreline change analysis was performed every 200 feet. Once the shoreline change rates were calculated, they were analyzed and grouped using the ESRI ArcGIS spatial statistics tool called 'Grouping'. The values within each group were averaged to obtain an annual shoreline change rate. This rate was multiplied by 40 to generate the setback distance from the baseline.

Daufuskie Island Baseline

Daufuskie Island is located in Beaufort County to the south of Hilton Head Island, between Mungen Creek to the southwest and Calibogue Sound to the northeast. The island is only accessible by ferry or boat, and the entire island is classified as an unstabilized inlet zone.

Unstabilized Inlet Zone

There is a 4,000-ft long wooden bulkhead along the shoreline of the Melrose Tract that is no longer intact and functional. For the entire island, the baseline is set at the most landward point of erosion in the last 40 years. At the southern end of the island, from the Bloody Point terminal groin to a point approximately 1,100 feet to the north along the shoreline, the baseline is set at the vegetation line collected by OCRM staff in the field in December 2016. Then, for a shoreline distance of approximately 600 feet, the baseline is set at the 1977 vegetation line position. Then, for a shoreline distance of approximately 500 feet, the baseline is set at the 1998 vegetation line position. For the remainder of Daufuskie Island, the baseline is set at the vegetation line collected by OCRM staff in the field in December 2016. At the northeastern end of the island, the baseline wraps and terminates near a marsh and tidal creek area. Any land or water areas to the northeast of the wrapped baseline are considered to be located seaward of the baseline.

Daufuskie Island Setback Line

The following table identifies average annual shoreline change rates, from south to north.

Location Description	Shoreline Change Rate (ft/year) *	Multiplier	Setback Distance (ft)
Wrapping the south end of Daufuskie for 228 feet along Fuskie Lane	^	N/A	20
Transition north for 33 feet, then north for 30 feet along Fuskie Lane	-1.4193	40	57
North for 65 feet along Fuskie Lane	-3.0586	40	122
North for 55 feet along Fuskie Lane	-6.0834	40	243
Transition north for 76 feet, then north for 619 feet along Fuskie Lane	-7.9045	40	316
Transition north for 34 feet, then north for 89 feet along Fuskie Lane	-5.9195	40	237
Transition north for 79 feet, then north for 2,183 feet along Fuskie Lane	-3.4022	40	136
Transition north for 204 feet, then for 3,107 feet to the north end of Cresting Wave Lane	-4.1843	40	167
Transition north for 240 feet, then north for 2,103 feet	-5.0711	40	203
Transition north for 263 feet, then north for 588 feet to the north end of Beauregard Boulevard	-6.4794	40	259
Transition north for 308 feet, then north for 3,032 feet to Captain Monroe Lane	-7.4058	40	296

Location Description	Shoreline Change Rate (ft/year) *	Multiplier	Setback Distance (ft)
Transition north for 148 feet, then north for 603 feet	-6.2253	40	249
Transition north for 167 feet, then north for 352 feet along Avenue of Oaks	-5.2374	40	210
Transition north for 176 feet, then north for 802 feet along Avenue of Oaks	-4.196	40	168
Transition north for 214 feet, then north for 1,642 feet along Avenue of Oaks	-2.4752	40	99
Transition north for 213 feet, then north for 601 feet to the north end of Avenue of Oaks	-1.1659	40	47
Transition north for 188 feet, then north for 1,042 feet wrapping around the north end of Daufuskie	^	N/A	20

* A negative number indicates erosion.

^ When this symbol is present, it indicates that the minimum setback is required. The shoreline change rate in these areas is between -0.5 and +31.0 ft/year.

Final Product

Once the location of these proposed new beachfront jurisdictional lines is determined, this "line report" is prepared documenting how the new line positions were established. The proposed lines are then released for a 30-day public comment period, and a public hearing is held for public review and comment on the proposed line positions. The proposed lines are also made available for public review on the South Carolina Beachfront Jurisdiction viewer (<https://gis.dhec.sc.gov/shoreline>). Once the lines are adopted as final, the final versions can also be seen on the South Carolina Beachfront Jurisdiction viewer. The line coordinates are also made available on the DHEC web site in a format that allows them to be downloaded and imported into computer-generated plats by surveyors.

Addendum

Act # 173 of 2018 known as the "Beachfront Management Reform Act" was signed into law on May 3, 2018 by Governor Henry McMaster. In accordance with the Act, the state's beachfront jurisdictional lines, administered by DHEC's Office of Ocean and Coastal Resource Management, have been established for all beachfront areas of the state as follows.

The baseline is established at the most seaward position of either the current baseline set during the 2008 through 2012 cycle; or the baseline proposed by the department on October 6, 2017.

The setback line is established at the most seaward position of either the current setback line set during the 2008 through 2012 cycle; or the setback line proposed by the department on October 6, 2017.

These jurisdictional lines will be in effect until the completion of the establishment cycle initiating on or after January 1, 2024.

Additional information including survey packets with coordinates is available through the DHEC State Beach Jurisdictional Lines web page at: www.scdhec.gov/beachfrontlines



Exhibit JFG 6 (6 of 6)